SOME VARIETIES OF POTAMOGETON AND SPIRAEA.

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ACCORDING to Dr. Morong and other recent writers the typical form of *Potamogeton Nuttallii* should be small and slender with flattened stem, crowded distichous submersed leaves 2–7 inches in length by 1–3 lines in width, linear and 5-nerved. The floating leaves should be small (1.5– 3.5 inches long x 4–12 lines wide), 12–27-nerved, elliptical and sloping at the base into a short petiole. Most of our specimens from New England and westward agree very closely with this description except that the submersed leaves are often 7-nerved and never over 4.5 inches long.

My attention was recently called by Prof. W. W. Rowlee to some peculiar gigantic specimens collected by him in Oswego County, New York. Further investigation showed that this large form is frequent in ponds and streams throughout Central New York, and constitutes a quite well-marked variety. So far as known to me, it has heretofore been noticed only by Professor Dudley who, in the Cayuga Flora, says that "Only the specimens from Cayuta Lake have the small leaves as described by Robbins." The Cayuga Lake plants are thus recognized as larger.

The new form differs from the type in having a much longer stem, more distant submersed leaves, which are always very much larger and broader, and have from 9 to 13 nerves. When in the water they are also not so conspicuously distichous. The floating leaves are larger and more inclined to be obovate, and the mature fruit is noticeably larger. Possibly the extreme length of leaf in Dr. Morong's description was taken from specimens of this form. The following is a brief characterization of the variety.

P. NUTTALLII Cham. & Schlecht. var **Cayugensis.** Large and stout, nearly a meter in length; stem somewhat flattened, internodes usually long (2–15 cm.); submersed leaves not conspicously distichous, very large (12–22 cm. x 5–10 mm.), evenly linear, acute or obtuse, 9–13-nerved, the space between the two inner nerves reticulated as in the type; floating leaves, several pairs separated by long internodes, larger than in the type (blade 5–6 cm. x 2–2.5 cm.), obovate oblong or elliptical, 30–40-nerved, rounded at the apex, tapering below into the broad petiole which is 3.5–4 cm. long; peduncles stout, achenes larger (3.5 mm. diam.); embryo spirally coiled.

Lakes and rivers of Central New York. It has been found in most of the ponds of Oswego County and in Cayuga Lake, as well as in other smaller lakes and streams about Ithaca.

While collecting last summer in the Adirondack Mountains my attention was called to the spiraeas of that region by the peculiar appearance of their foliage. Instead of the narrow dark-green and finely serrate leaves of the *S. salicifolia* found about Ithaca, the plants all possessed broadly elliptical and coarsely dentate leaves of a much paler or yellowish-green color. This color of the foliage was often quite marked as was also that of the flowers which on some plants was of a bright pink or rose-color. Closer inspection showed that the panicle, which in the ordinary form is densely tomentulose, was in these plants almost, if not quite, glabrous, but differences sought in the floral structures were not found and probably do not exist. A study of herbarium material leads me to the belief that *S. salicifolia* may be separated into two quite marked forms along the lines noted above. These may be distinguished somewhat as follows:

S. SALICIFOLIA L. Leaves broadly or narrowly oblanceolate, acute, dark-green, finely and sharply serrate; inflorescence broadly pyramidal, the branches, pedicels, and calyx densely tomentulose; flowers white.

Quite widely distributed over the north-eastern United States, our specimens coming from various portions of New York, Canada, and from as far south as North Carolina.

Var. LATIFOLIA Ait. Leaves obovate or elliptical, much broader and often shorter than in the last, scarcely acute, coarsely dentate-serrate, pale yellowish-green; inflorescence, broadly pyramidal, nearly glabrous, and with a yellowish tinge; flowers white or rose-color.

Also widely distributed in the same region, but seemingly more common in New England. I have seen specimens from Maine, Massachusetts, Connecticut, Virginia, and in New York State from Oswego County, Chemung County, and the Adirondacks.

I should be tempted to consider these forms distinct species if it were not for some peculiar specimens collected last fall near Ithaca, which seem to be rather intermediate in nature. More ample material may still prove them to be distinct. At any rate it must be admitted that in the extreme forms they are strikingly unlike.

It still remains an open question whether our white-flowered American plant is distinct from the European form with rose-colored flowers. Some European authors, among whom are Koch and Dippel, consider them distinct, and take up for the white-flowered form the name *S. alba*

of DuRoi. Dippel gives a good characterization of our present variety as *S. alba latifolia;* while Koch goes a step farther and considers them all three distinct species.

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CHLOROCYSTIS COHNII ON THE MASSACHUSETTS COAST.—There was one genus omitted from Mr. Collins' valuable list of marine algae in the February RHODORA, which should be added in order to make it more complete. I refer to the grass-green unicellular alga, *Chlorocystis Cohnii* (Wright) Reinh., which was first collected by me in February, 1897, growing on Enteromorpha fronds, along the shore, at Lynn, Mass. This species, which is quite common throughout the year at the locality noted, has not been previously reported from this country, and has been only occasionally found abroad. Wright first discovered it off the coast of Ireland in 1877. Seven years later Lagerheim collected it on Swedish shores, and the following season Reinhard came across the plant while studying the flora of the Black Sea. Since then de Wildman secured specimens on the coast of France, and in 1894 Rosenvinge reported it from Greenland. All of these observers found the plant growing endophytically on various marine algae; but the material from Lynn showed *Chlorocystis Cohnii* to be epiphytic in its habit quite as often as endophytic. Thus far Enteromorpha is the only host for America.—G. T. MOORE, Dartmouth College.

VARIATIONS OF ILEX VERTICILLATA.

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OUR common black alder has long been recognized as a polymorphous species, and attempts have from time to time been made to distinguish and characterize its varieties. These, so far as described, have been based chiefly upon the size, shape, texture, and pubescence of the leaves, features which show too much tendency toward independent variation to yield very satisfactory combinations of characters. Nevertheless, of these varieties the following forms (including the typical one), which were clearly recognized, although not fully published by Torrey & Gray, are sufficiently characteristic to merit a place in descriptive floras. It will be seen from the notes below that two